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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/669,116

09/23/2003

Robert Miller

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06/01/2007

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EXAMINER

ECHELMMEYER, ALIX ELIZABETH

ART UNIT

PAPER NUMBER

1745

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/669,116

**Applicant(s)**

MILLER, ROBERT

**Examiner**

Alix Elizabeth Echelmeyer

**Art Unit**

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 March 2007.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4,7-17 and 19-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,7-17 and 19-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response*

1. This Office Action is in response to the Reply filed March 15, 2007. No claims are amended, cancelled or added. Claims 1, 2, 4, 7-17 and 19-27 are pending and are rejected finally for the reasons given below.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4, 7, 8, 12, 16, 17, 19- 24, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lessar et al. (US Patent 6,006,133) in view of Miyazuki et al. (US Patent 6,315,801) and Merlin et al. (US Patent 5,552,574).

Lessar et al. teach an energy source having a planar layered structure with anode and cathode layers sharing separator layers in between. The separator layers are impregnated with a solid or liquid electrolyte. The anode and cathode layers have registration tabs extending from their perimeter. The entire assembly is sealed in a case. The anode and cathode layers are connected electrically (column 8 lines 59-67, column 9 lines 1-17).

Lessar et al. fail to teach an identification code on the exposed portion of the current collector.

Miyazuki et al. teach process control and identification marks formed on the current collector portion of an electrode (abstract; column 4 lines 27-28). The marks are needed to effectively perform manufacturing processes and ensure process control (column 2 lines 58-67; column 3 lines 1-5 and 29-31).

Further, Miyazuki et al. teach that the data on the barcode can be manufacturing data. The examiner believes that the weight of the current collector and a gram amount of the electrode active material, as well as any other values relating to the current collector or cell, are manufacturing data.

It would be desirable to put the information of Miyazuki et al. on the exposed portions of Lessar et al. in order to provide information needed for manufacturing processes and to ensure process control.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to put the information of Miyazuki et al. on the exposed portions of Lessar et al. in order to provide information needed for manufacturing processes and to ensure process control.

Regarding claims 24, 26 and 27, Miyazuki et al. teach that the current collector is made of nickel or copper (column 11 lines 21-30). Since Lessar et al. are silent on the current collector material, it would have been obvious to one having ordinary skill in the art at the time of the invention to use these commonly known materials as the current collector because they are chemically compatible in the environment of a battery.

Lessar et al. in view of Miyazuki et al. fail to teach that the marks are etched; however, Miyazuki et al. teach that former printed marks were susceptible to damage (column 2 lines 58-67).

Merlin et al. teach a method for marking particulars on a card having metal contacts. They teach the use of a laser beam to etch said particulars, such as a security message or manufacturer's identification. The etching can be performed at any stage in the manufacturing process. This process permits units to be identified individually (abstract, column 1 lines 15-17, column 2 lines 6-38).

Further, regarding claims 20 and 22, the purpose of providing information on a part is to allow for information about the part to be accessed. If the information were not to be used, then there would not be a need to put information on the part. Scanning the identifying information on the current collector tab of Lessar et al. in view of Miyazuki et al. that was put there using the method of Merlin et al. would allow one working with the current collector to access the information when it was needed.

Adding the identifying information of Merlin et al. to the registration tab on the anode or cathode of Lessar et al. in view of Miyazuki et al. allows one working with the anode or cathode to put information about the particulars, such as a security message or manufacturer's identification, of said anode or cathode. This also allows for the information about the part to be recorded on the part so that it can be easily accessed.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the etching process of Merlin et al. to put identifying marks on the registration tabs on the anodes and cathodes or the housing

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casing of Lessar et al. in view of Miyazuki et al. in order to provide information about the anodes and cathodes

4. Claims 9-11, 13-15 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lessar et al. in view of Miyazuki et al. and Merlin et al. as applied to claims 1 and 7 above, and further in view of Gan et al. (US Patent 6,790,561).

The teachings of Lessar et al., Miyazuki et al. and Merlin et al. as discussed above are incorporated herein.

Lessar et al. in view of Miyazuki et al. and Merlin et al. teach an electrode with an active material contacted to the current collector, a barcode located on the current collector containing data about the cell, a counter electrode, a separator between the electrodes, a casing housing the electrodes, and an electrical connection between the electrodes. Lessar et al. in view of Miyazuki et al. and Merlin et al. teach the use of the electric energy storage device, specifically an electrochemical or electrolyte capacitor, in an implantable medical device. Lessar et al. in view of Inagaki et al. fail to teach the use of silver vanadium oxide (SVO) and fluorinated carbon ( $CF_x$ ) as active electrode materials, the wing shape, or the method of forming the electrodes.

Regarding claim 25, Miyazuki et al. teach that the current collector is made of nickel or copper (column 11 lines 21-30). Since Lessar et al. are silent on the current collector material, it would have been obvious to one having ordinary skill in the art at the time of the invention to use these commonly known materials as the current collector.

Gan et al. teach a method for forming an electrode having two active materials with the following configuration: SVO / current collector / CF<sub>x</sub> / current collector / SVO (column 2 lines 35-54, column 8 lines 7-12).

The use of these materials allows for electrode active materials having different strengths and weaknesses to share both ions and electrons during cell discharge (column 2 lines 24-36).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the configuration taught by Gan et al. in the electrical energy storage device of Lessar et al. in view of Miyazuki et al. and Merlin et al. in order to create a cell structure that could share both ions and electrons during cell discharge.

With regards to claim 11, Gan et al. teach that the anode current collector can be formed in some other geometry in order to allow an alternate low surface cell design (column 5 lines 53-64). Changing the shape of the cathode to match the shape of the anode would reduce the amount of surface area not matched by the cathode.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the current collectors of Lessar et al. in view of Miyazuki et al. and Merlin et al. to have the configuration with two active materials mentioned above and a different shape, such as a wing shape with the registration tab between the two wings.

Regarding claim 12, Gan et al. teach the use of a jellyroll-type configuration (column 9 lines 15-21).

This configuration allows for a larger surface area of contact among the parts of the cell.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to put the current collectors of Lessar et al. in view of Miyazuki et al. and Merlin et al. in the configuration mentioned above into a jellyroll-type configuration in order to increase the surface area of contact among the parts.

As for claim 15, Gan et al. teach the use of the electrical energy storage device having an electrode of the configuration SVO / current collector / CF<sub>x</sub> / current collector / SVO in an implantable cardioverter defibrillator (column 3 lines 1-2).

The use of a cell having an electrode of the type described above is particularly well suited for this use, according to Gan et al. This teaching would suggest the use of such devices as medical implants.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the electrode made by the combination of Lessar et al. in view of Miyazuki et al. and Merlin et al. and Gan et al. as discussed above in an implantable cardioverter defibrillator because it is taught by Gan et al.

### ***Response to Arguments***

5. Applicant's arguments filed March 15, 2007 have been fully considered but they are not persuasive.

On page 9 of the remarks, Applicants argue that the registration tabs of Lessar et al. are used for alignment and not for printing unique information. The examiner agrees,



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but in combination with Miyazaki et al., the tabs are used for information. Further, the purpose of the tabs as stated by Lessar et al. does not change the fact that the tabs are present and may be used for providing unique information.

On page 11 of the remarks, Applicants state that the patterned identification marks Miyazaki et al. are nothing more than manipulation of the active material layer. While the marks are a manipulation of the active material layer, they also provide an identification marks to be used in process control (column 2 lines 64-67; column 3 lines 1-3; column 4 lines 27-28).

The motivation to provide the marks of Miyazaki et al. on the tabs of Lessar et al. is to provide information needed for process control on easily accessible areas, such as protruding tabs.

On page 12 of the remarks, Applicants argue that it would not have been obvious to make the process control marks of Miyazaki et al. by etching. The examiner disagrees. It would have been obvious, as stated above, because printed material is susceptible to damage (column 2 lines 58-67 of Miyazaki et al.). Further, etching can be performed at any stage of the manufacturing process (see rejection above). Because etched marks are not susceptible to damage like former printed marks and because etched marks may be formed at any stage of production, it would be desirable to etch the marks of Miyazaki et al.

On page 13 of the remarks, Applicants state that there is no motivation within Miyazaki et al. to improve the marks by etching them: "In other words, the Miyazaki et al. invention is complete and functional in and of itself and not one needing to be

'improved'." Most modern inventions are made by improving an existing invention that previous may not have been believed to need improvement. Take, for example, a car. It is likely that Henry Ford believed that his Model T cars did not need improvement, but one need only sit in a car to see the many inventions that have improved cars, such as seatbelts or antilock brakes. The argument that an existing invention does not need further improvement goes against the whole purpose of inventing.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is 571-272-1101. The examiner can normally be reached on Mon-Fri 7-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's trainer, Susy N. Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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